Strategies to Impact Complex Health Conditions

Shaping the Future of Mental Health™

Genesee County

Community Mental Health

Tisha Deeghan, MHSA, LMSW, ACSW, LMFT

Behavioral Health/Primary Care Conference East Lansing, MI

16 November 2011
Learning Objectives

1. Identify disease burden and **risk factors** for complex health conditions and premature mortality for people with serious mental illness.

2. List several **strategies** incorporating primary care and health status monitoring that could positively impact premature mortality.

3. Describe Genesee County’s **InSHAPE® program**, its inclusion in a behavioral/primary health home, and its replicability in other settings.

4. Discuss preliminary outcomes and results in Genesee County and expansion plans for FY 12.
People with serious mental illness (SMI) die an average of 25-30 years earlier than individuals in the general population.

Oregon found average years per life lost for people with co-occurring MH & SUD to be between 32.8 & 37.4 (OR Dept. of Human Service, 2008).

People with SMI are at risk of weight gain, obesity and associated adverse outcomes due to sedentary lifestyles, poor diet, metabolic alterations related to psychiatric medications, and tobacco use.

People with SMI have nearly twice the normal risk of dying from cardiovascular disease (CVD).
Social Determinants: Poverty

- Genesee County median household income in 2007 was $43,112, less than the state median ($47,950), which is less than US ($50,740); City of Flint was nearly $22,000 less than the county. This doesn’t reflect the depression in 2008-2010
- The 2009 per capita income was $14,996 for the Flint and $22,258 for Genesee County. Both have lower per capita incomes than the state average per person, $23,728. Source: 2009 American Community Survey.
- Over 40% of children in Genesee receive free/reduced price lunch
- At any given time, more than 25% of county residents are Medicaid-eligible
- 2009 pop below FPL: 36.2% (Flint), 19.3% (County). Source: 2009 American Community Survey.
- Unemployment (2010 BLS): Flint jobless rate was 23.2%; for the county, it was 13.7%
- Abandoned property: 1/3 of properties in Flint are vacant
Disease Burden

* **Preventable** chronic diseases account for 3/4 of health spending in the US *(CDC)*
  * CVD
  * Obesity
  * STDs (gonorrhea & chlamydia)
  * Tobacco use
* Genesee ranks **82/82** counties in health behaviors *(RWJ 2011)*
* The **chronic disease burden** in Genesee related to obesity, asthma, tobacco use, and diabetes is higher than the state
* **Individuals with SMI** are dying primarily because of **preventable medical conditions**
Between 10/1/04 - 9/30/11, 178 GCCMH consumers died of CVD. This is 33% of all deaths, and is the most common cause every year.
<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>GCCMH</th>
<th>Genesee County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total percent of Flint residents</td>
<td>57%</td>
<td></td>
<td>24%</td>
</tr>
<tr>
<td>Percent of Flint resident deaths</td>
<td>50%</td>
<td></td>
<td>40%</td>
</tr>
</tbody>
</table>
Population Distribution of GCCMH by Age and Gender, 2009

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>1-4</td>
<td>0.8%</td>
<td>0.4%</td>
</tr>
<tr>
<td>5-14</td>
<td>8.3%</td>
<td>4.7%</td>
</tr>
<tr>
<td>15-24</td>
<td>7.5%</td>
<td>5.9%</td>
</tr>
<tr>
<td>25-34</td>
<td>8.2%</td>
<td>7.6%</td>
</tr>
<tr>
<td>35-44</td>
<td>10.0%</td>
<td>9.3%</td>
</tr>
<tr>
<td>45-54</td>
<td>13.0%</td>
<td>11.4%</td>
</tr>
<tr>
<td>55-64</td>
<td>4.6%</td>
<td>4.7%</td>
</tr>
<tr>
<td>65-74</td>
<td>1.2%</td>
<td>1.7%</td>
</tr>
<tr>
<td>75-84</td>
<td>0.2%</td>
<td>0.4%</td>
</tr>
<tr>
<td>85+</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>
Cumulative distribution: Age at death

Among CMH consumers, over 70% die before age 55.

Among Genesee County residents, 20% die before age 55.
% of deaths by age group, comparing county to CMH

**2009**

- **County %**  
  - County N=4020

- **CMH %**  
  - CMH N=65 (exclusive)

---

**Age at death**

- < 1
- 1 to 4
- 5 to 14
- 15 to 24
- 25 to 34
- 35 to 44
- 45 to 54
- 55 to 64
- 65 to 74
- 75 to 84
- 85+
Among black males who die of cardiovascular disease, 60% die before age 70.

Among white males who die of cardiovascular disease, 40% die before age 70.

Cumulative distribution: Age at death by race County (Males), Cardiovascular disease 5 year average: 2005-2009
Cumulative distribution: Age at death by race
County (Females), Cardiovascular disease
5 year average: 2005-2009

Among black females who die of cardiovascular disease, 50% die before age 70

Among white females who die of cardiovascular disease, 20% die before age 70
Age at death by gender (SMI only)

- Female (N=297)
- Male (N=329)
Age at death by gender x race (SMI only)

White female (N=240)
White male (N=236)
Minority female (N=59)
Minority male (N=96)
Mean and 90% C.I. for age at death by gender and minority status for SMI consumers
Frequency distribution: Causes of death
GCCMH consumers, FY2004 - 2010
Natural causes in dark blue

% of all deaths

Cardiovascular disease: 35%
Lung Disease: 15%
Accidents: 10%
Cancer: 7%
Neurological Disorders: 6%
Diabetes Mellitus: 6%
Infection, Inc. AIDS: 5%
Liver Disease: 4%
Suicide: 3%
Inanition: 3%
Homicide: 3%
Aspiration: 2%
Other / unknown: 3%

Causes
Frequency distribution: Causes of death (in process)
GCCMH consumers, FY 2011
Natural causes in dark blue

N = 87
Cumulative distribution: Age at death
Cardiovascular disease
5 year average: 2005-2009

Among CMH consumers who die of cardiovascular disease, 50% die before age 55

Among Genesee County residents who die of cardiovascular disease, 15% die before age 55
Mean Ages at Death due to Cardiovascular Disease (2005-2009)
Cumulative distribution: Age at death for consumers with DD only, MI only, and MI/DD + comorbid SUD
Deaths FY2004 – FY2010, from CMH datasets (with median age at death)

- DD and SMI / DD (N=166)
- SMI (N=306)
- MI or DD + SUD (N=157)

DD/SMI + SUD: 47
SMI no SUD: 59
DD no SUD: 56

In 2009, 48% of all individuals who died in Genesee County were younger than 75 (MDCH Bur. Vital Stats).

SMI: 75% die before 75

Deaths FY2004 – FY2010, from CMH datasets (with median age at death)
% of deaths with drug use (including alcohol & tobacco) listed as underlying or related cause of death

Accumulative:
CMH: N=55/192 28.6% (exclusive)
County: N=2197/11825 18.5%
Mean Ages at Death due to Opiate Use (2005-2009)

- **County mean**
- **CMH average mean**

**CMH** (3 year average)
Mean Ages at Death due to Suicide (2005-2009)

Years

Age

County Mean

CMH (3 year avg)
Health Promotion Strategies
Health & Wellness Initiatives

* **Five-year strategic plan (FY09-13)** centers on promoting wellness and reducing morbidity and mortality

* **InSHAPE®** launched August 2009; at that time, the only wellness promotion program of its type in Michigan; Started with 1 staff, now 5

* Collaboration with UM **School of Public Health**

* **Wellness Stations** throughout our facilities across the county to provide health/wellness resources and educational materials, e.g., DVDs, BP/BMI machines, etc.

* **GCCMH Community Garden Project** built in 2009 via extensive community partnerships
Objectives of the GCCMH Garden Project

Education

Socializing/Team Work

Exercise
What happens to the produce?

- Divided among workgroups
- Given to consumers and community members
- Sold at the Farmer’s Market
- Sold to a local Dollar Store Owner
Focus on Physical Health Status

- Primary care & lab services within our Medication Clinic (docs, nurses, peers)
- Coordination and sharing with MHPs
- Federally Qualified Health Center 330
- Funding & Planning applications
- Commit-2-Fit

Being Active Feels Good.
Join the MOVEment!
commit-2-fit.org
2012+

* ACA Health Center Planning Grant HRSA-11-021 for 330(e) funding for FY12. One of only five mental health agencies in the country.
* MDCH Block Grant: “Health Home Navigation in a Recovery Oriented System of Care”
* “Healthy Living Promotion for People with Disabilities” grant with GCHD (NACCHO)
* Medicaid Match Grants (between UM & MDCH for community health services)
  * “Development of a Manual to Improve Physical Health Outcomes in Patients with Mental Illness” (granted)
  * “The Genesee Wellness Station” (in process)
GCCMH Health Home: Recovery Navigator Pilot

- Inpatient, SH, Detox discharge
- Primary care/BH home
- HIV
- Peer support
- Housing
- BH care
- InSHAPE
- Entitlements
- Family supports
GCCMH Health Home: Recovery Navigator Pilot

**Purpose**
* Coordinating follow-up care after hospitalization or detox treatment
* Ensuring that a pattern of care-seeking is established before participants leave the program
* Preventing future physical and mental health crises

**Target Populations**
* Uninsured with SMI, SUD, and chronic health condition (Asthma, diabetes, cardiovascular disease, or BMI >25)
* 18-40 year old African American males
* LGBTQ population
InSHAPE®

Shaping the Future of Mental Health™
Goal: To lengthen life expectancy and improve the quality of life for persons with SMI through a one-year program of exercise, diet, and coaching by a Health Mentor (certified personal trainer) and peer support specialist.

Associated Outcomes

- Improved community’s health
- Personal pathways of inclusion and recovery
- Stigma reduction
- Breaking down barriers
- Enhanced Public Good
Activities for InSHAPE Participants

Splash Bash
A water exercise program designed to tone the body, strengthen the muscles & condition the heart and lungs.

Wellness Center

CMH Garden Project

Rainbow Connection Walking Group
Designed to improve cardiovascular fitness, while enhancing social skills.
Timeline of InSHAPE

Duration of program = 1 year

First Quarter:
- Develop Shape Plan
- Assessments
- Goal Setting Plan
- Meet Twice a week with Mentor
- Nutritional Guidance
- Homework
- Classes/Workshops
- Celebrations

Second Quarter:
- Assessments
- Goal Setting Plan
- Meet once a week with Mentor
- Nutritional Guidance
- Homework
- Classes/Workshops
- Celebrations

Third Quarter:
- Assessments
- Goal Setting Plan
- Meet every other week with Mentor
- Nutritional Guidance
- Homework
- Classes/Workshops
- Celebrations

Fourth Quarter:
- Assessments
- Goal Setting Plan
- Meet Once a Month with Mentor
- Nutritional Guidance
- Homework
- Classes/Workshops
- Celebrations
- Graduate Program
InSHAPE criteria for participation

* 18 years or older
* Have a serious mental illness: bipolar (most common), schizophrenia, major depression
* Currently seeing a CMH Case Manager*
* Identified one or more health risk (high blood pressure, high cholesterol, overweight/obese, diabetes, CVD) and associated high risk health behavior(s)
* Physician clearance to participate
* Acceptance without regard to ability to pay a nominal fee
* Willing to participate

*GCCMH criterion not a part of the NH model
The Dartmouth Psychiatric Research Center conducted an 18-month pilot study of InSHAPE’s effects on the health of 98 participants served in original implementation site (NH).

**Findings:**

- InSHAPE is effective in reducing disease risk factors, as well as improving the physical health and quality of life of persons with SMI.
- Participants had significantly increased their exercise level and reduced their average waist circumference (a marker for high risk).
- Participants also reported significant improvements in mental and emotional functioning and a decrease in the severity of symptoms of schizophrenia.
According to RWJ, to ensure replication of the results and impact of the In SHAPE program, ideal participant organizations should have:

* Strong entrepreneurial leadership
* A demonstrated ability to develop strong community partnerships with a variety of organizations
* A board that supports the need to go beyond the status quo in the field of mental health
Preliminary Results – Genesee County

To date served: 129 (as of 10/25/11)

* 44/53/3% African American/white/other
* 64/36% female/male (19 AA males)

Current status:

* 69 active within their one year program
* 13 inactive (usually illness &/or hospitalization)
* 39 withdrew before completion of one year program (often shortly after intake)
* 6 graduated
* 2 died (heart/crack cocaine; bowel obstruction)
Participation summary

* Median length of enrollment: 226 days
* Median # sessions attended: 19.5
* Median percentage of scheduled sessions attended: 61%
GCCMH Participants’ Chronic Health Conditions
Many participants have multiple (complex) health conditions

<table>
<thead>
<tr>
<th>Overweight/obese 107</th>
<th>Heart Palpitations 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smokers 72</td>
<td>Osteoporosis 8</td>
</tr>
<tr>
<td>Hypertension 59</td>
<td>Heart Attack Hx 6</td>
</tr>
<tr>
<td>Asthma 38</td>
<td>Hepatitis 7</td>
</tr>
<tr>
<td>Diabetes 43</td>
<td>COPD 5</td>
</tr>
<tr>
<td>High Cholesterol 45</td>
<td>Cerebral Palsy 3</td>
</tr>
<tr>
<td>Depression 66</td>
<td>Hyperthyroidism 4</td>
</tr>
<tr>
<td>Anxiety 56</td>
<td>Stroke hx 2</td>
</tr>
<tr>
<td>Arthritis 32</td>
<td>Cancer hx 3</td>
</tr>
<tr>
<td>Edema 20</td>
<td>Fibromyalgia 2</td>
</tr>
<tr>
<td>Substance Abuse 19</td>
<td>Rheumatic Fever 1</td>
</tr>
<tr>
<td>Angina 27</td>
<td>Rheumatoid Arthritis 2</td>
</tr>
<tr>
<td>Allergies 38</td>
<td>Eating Disorder 6</td>
</tr>
</tbody>
</table>
Sample statistics from web-based reports in GCCMH data warehouse
Data output: Case A

Overall Weight Progress

- Weight

Overall Blood Pressure Progress

- BPSystolic
- BPDiastolic

Assessment Date:
- 4/1/2011
- 5/1/2011
- 6/1/2011
- 7/1/2011
- 8/1/2011
- 9/1/2011
Data output: Case A

Overall Body Fat percentage Progress

Overall Cholesterol & Triglycerides Progress

Assessment Date

%

32.8
32.6
32.4
32.2
32
31.8


Assessment Date

mg/dL

0
2
4
6
8
10


Tot Chol
HDL Chol
LDL Chol
TRIGLYCERIDES
Data output: Case A

Overall Sugar

Overall Waist & Hip Circumference Progress
Data output: Case A

**Overall Body Mass Index Progress**

- **BMI**

**Overall Sit & Reach Test Progress**

- **SRTAvg Dist**
## Data output Case A: Summary

<table>
<thead>
<tr>
<th>Assessment Date</th>
<th>Weight lbs</th>
<th>Systolic BP mmHg</th>
<th>Diastolic BP mmHg</th>
<th>Body Fat %</th>
<th>Total Cholesterol mg/dL</th>
<th>HDL Chol. mg/dL</th>
<th>LDL Chol. mg/dL</th>
<th>HbA1c %</th>
<th>Waist Circ. cm</th>
<th>Hip Circ. cm</th>
<th>BMI</th>
<th>Sit &amp; Reach Ave. in</th>
<th>Triglycrides mg/dL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Begin</strong></td>
<td>4/18/2011</td>
<td>291.2</td>
<td>110</td>
<td>79</td>
<td>32.76</td>
<td></td>
<td></td>
<td></td>
<td>130.8</td>
<td>118.3</td>
<td>41.8</td>
<td>4.75</td>
<td></td>
</tr>
<tr>
<td><strong>End</strong></td>
<td>8/12/2011</td>
<td>274</td>
<td>107</td>
<td>69</td>
<td>32.77</td>
<td></td>
<td></td>
<td></td>
<td>126.5</td>
<td>114.5</td>
<td>39.3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-17.20</td>
<td>-3.00</td>
<td>-10.00</td>
<td>+0.01</td>
<td>+0.00</td>
<td>+0.00</td>
<td>+0.00</td>
<td></td>
<td>-4.30</td>
<td>-3.80</td>
<td>-2.46</td>
<td>-1.75</td>
<td>+0.00</td>
</tr>
</tbody>
</table>
Data output: Case B

Overall Weight Progress

Overall Blood Pressure Progress
Data output: Case B

Overall Body Fat percentage Progress

Overall Cholesterol & Triglycerides Progress
Data output: Case B

Overall Sugar

Overall Waist & Hip Circumference Progress
Data output: Case B

Overall Body Mass Index Progress

Overall Sit & Reach Test Progress
### Data output Case B: Summary

<table>
<thead>
<tr>
<th>Assessment Date</th>
<th>Weight lbs</th>
<th>Systolic BP mmHg</th>
<th>Diastolic BP mmHg</th>
<th>Body Fat %</th>
<th>Total Cholesterol mg/dL</th>
<th>HDL Chol. mg/dL</th>
<th>LDL Chol. mg/dL</th>
<th>HbA1c %</th>
<th>Waist Circ. cm</th>
<th>Hip Circ. cm</th>
<th>BMI</th>
<th>Sit &amp; Reach Ave. in</th>
<th>Triglycerides mg/dL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Begin</strong></td>
<td>11/25/2009</td>
<td>230</td>
<td>141</td>
<td>87</td>
<td>50.3</td>
<td>143</td>
<td>42</td>
<td>71</td>
<td>5.5</td>
<td>128</td>
<td>118</td>
<td>38.3</td>
<td>8</td>
</tr>
<tr>
<td><strong>End</strong></td>
<td>5/10/2011</td>
<td>214</td>
<td>119</td>
<td>60</td>
<td>28.17</td>
<td>143</td>
<td>42</td>
<td>71</td>
<td>5.5</td>
<td>119</td>
<td>113.25</td>
<td>35.6</td>
<td>0</td>
</tr>
<tr>
<td><strong>Change</strong></td>
<td>-16.00</td>
<td>-22.00</td>
<td>-27.00</td>
<td>-22.13</td>
<td>+0.00</td>
<td>+0.00</td>
<td>+0.00</td>
<td>+0.00</td>
<td>-9.00</td>
<td>-4.75</td>
<td>-2.66</td>
<td>-8.00</td>
<td>+0.00</td>
</tr>
</tbody>
</table>
## Program Statistics

<table>
<thead>
<tr>
<th>Weight Measurement</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Weight Change lbs</td>
<td>-345.1</td>
<td>61</td>
</tr>
<tr>
<td>Median Weight Change lbs</td>
<td>-4.2</td>
<td>61</td>
</tr>
<tr>
<td>Average Weight Change lbs</td>
<td>-5.7</td>
<td>61</td>
</tr>
</tbody>
</table>

**Blood Pressure**

<table>
<thead>
<tr>
<th>Blood Pressure</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Systolic Points Change</td>
<td>-1.00</td>
<td>59</td>
</tr>
<tr>
<td>Average Diastolic Points Change</td>
<td>-2.00</td>
<td>59</td>
</tr>
</tbody>
</table>

**Body Fat**

<table>
<thead>
<tr>
<th>Body Fat</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Body Fat Change</td>
<td>-3.48</td>
<td>59</td>
</tr>
</tbody>
</table>

**Measurements**

<table>
<thead>
<tr>
<th>Measurements</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total cm change in waist</td>
<td>0</td>
<td>60</td>
</tr>
<tr>
<td>Average cm change in waist</td>
<td>0.00</td>
<td>60</td>
</tr>
<tr>
<td>Total cm change in hips</td>
<td>-19.01</td>
<td>60</td>
</tr>
<tr>
<td>Average cm change in hips</td>
<td>-0.32</td>
<td>60</td>
</tr>
</tbody>
</table>

**Body Mass Index**

<table>
<thead>
<tr>
<th>Body Mass Index</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average BMI change</td>
<td>-0.97</td>
<td>61</td>
</tr>
</tbody>
</table>

Program Statistics: Sample Report
Active as of 10/21/11
Decrease in diastolic BP
(N = 110)

Mean: 3.2
Median: 3.5
60th percentile: 6
80th percentile: 19
Decrease in systolic BP
(N = 110)
Decrease in body fat percentage
(N = 102)
Decrease in BMI points
(N = 112)
### Health Status Measures

<table>
<thead>
<tr>
<th>Condition</th>
<th>Status</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diabetes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never Present</td>
<td></td>
<td>35</td>
<td>57%</td>
</tr>
<tr>
<td>History of condition, but not treated for the condition within the past 12 months</td>
<td></td>
<td>3</td>
<td>5%</td>
</tr>
<tr>
<td>Treated for the condition within the past 12 months</td>
<td></td>
<td>17</td>
<td>28%</td>
</tr>
<tr>
<td>Information unavailable</td>
<td></td>
<td>3</td>
<td>5%</td>
</tr>
<tr>
<td>Information missing</td>
<td></td>
<td>3</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Hypertension</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never present</td>
<td></td>
<td>30</td>
<td>49%</td>
</tr>
<tr>
<td>History of condition, but not treated for the condition within the past 12 months</td>
<td></td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Treated for condition within the past 12 months and blood pressure is stable</td>
<td></td>
<td>21</td>
<td>34%</td>
</tr>
<tr>
<td>Treated for condition within the past 12 months, but blood pressure remains high or unstable</td>
<td></td>
<td>2</td>
<td>3%</td>
</tr>
<tr>
<td>Information is unavailable</td>
<td></td>
<td>4</td>
<td>7%</td>
</tr>
<tr>
<td>Information missing</td>
<td></td>
<td>3</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Obesity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not present</td>
<td></td>
<td>22</td>
<td>36%</td>
</tr>
<tr>
<td>Medical diagnosis of obesity present or Body Mass Index (BMI) &gt; 30</td>
<td></td>
<td>37</td>
<td>61%</td>
</tr>
<tr>
<td>Information missing</td>
<td></td>
<td>2</td>
<td>3%</td>
</tr>
</tbody>
</table>
Additional statistics: QI Data

* Living arrangement
* Consumer count
* Age count
* Eligibility count
* Gender count
* PLUS: Stats by LOS, active vs. inactive, consumers who lost or maintained weight, consumers who gained weight
Collaboration with the UM’s Department of Psychiatry, School of Public Health, and the Prevention Research Center of Michigan to conduct a comparative effectiveness study of InSHAPE in Genesee County

- **Study** is intended to build upon the Dartmouth Psychiatric Research Center’s NH findings
- When the RO1 grant is funded, we will hire 6-7 more Mentors to serve an additional 200+ participants
- **Health indicators** that are/will be documented (in EMR) include:
  - Weight
  - BMI
  - Waist Circumference
  - Hip Circumference
  - Blood Pressure
  - Cholesterol (q 3 mos)
  - HbA1c (q 3 mos)
  - Changes in use of Medication/Substance Use
  - Self-reported changes in mood and sleep patterns
InSHAPE financial sustainability

Some of the Health Mentors’ activities are eligible for billing as Community Living Supports (CLS, a Medicaid covered service, code H2015)

- Medicaid can cover about 56% of Health Mentor costs
- Also rely on targeted grants, GF, and foundations

Plus, considerable support from our research partner, the University of Michigan
Suggested readings on InSHAPE


* https://www.mfs.org/services/inshape/inshape
* http://tdi.dartmouth.edu/centers/population-health/prcd/inshape/
* http://www.rwjf.org/reports/grr/063029.htm
* http://rwjf.org/files/newsroom/profiles/inshape/
Tisha Deeghan, Sr. VP/Chief Operating Officer
Genesee County Community Mental Health
420 W. Fifth Ave
Flint, MI 48503
(810) 424-6046 or (810) 223-6028 (cell) tdeeghan@gencmh.org

For InSHAPE®
Ken Jue, founder of InSHAPE and Senior Executive
Monadnock Family Services
23 Ridgewood Ave
Keene, NH 03431
(603) 352-3891 or (603) 313-5722 (cell) kjue@mfs.org
BONUS!

Additional Mortality Analysis: A comparison of Genesee County residents to CMH consumers

Many thanks to Fannie Rackover, SPH Summer 2011 Intern, and Fatema Mamou, MPH, Genesee County Health Department Epidemiologist (now with MDCH Region 6)
Crude Death Rate (per 1000) with 95% Confidence Intervals
5 Year Average: 2005-2009

- CMH: 8.2
- County: 9.0
- State: 8.6
Crude Death Rate (per 1000) with 95% Confidence Intervals by Gender

5 Year Average: 2005-2009

Crude Death Rate (per 1000)

- CMH Male: 8.6
- County Male: 9.3
- State Male: 8.6
- CMH Female: 7.9
- County Female: 8.8
- State Female: 8.6
Crude Death Rate (per 1000) with 95% Confidence Intervals by Race

5 Year Average: 2005-2009

<table>
<thead>
<tr>
<th></th>
<th>CMH</th>
<th>County</th>
<th>State</th>
<th>CMH</th>
<th>County</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race</td>
<td>White</td>
<td></td>
<td></td>
<td>Black</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Death Rate</td>
<td>10.2</td>
<td>9.3</td>
<td>8.9</td>
<td>4.8</td>
<td>8.4</td>
<td>8.2</td>
</tr>
</tbody>
</table>
Standardized Mortality Ratio (all causes)
5 year average: 2005-2009

- CMH: 1.88
- County: 1.17
- State: 1.06

* Ratio to United States deaths, 2007
Standardized Mortality Ratio (all causes) by Gender
5 year average: 2005-2009

- Male:
  - CMH: 2.01
  - County: 1.18
  - State: 1.05

- Female:
  - CMH: 1.78
  - County: 1.23
  - State: 1.07
Standardized Mortality Ratio (all causes) by Race
5 year average: 2005-2009

* Ratio to United States deaths, 2007
Crude Death Rate (per 1000) with 95% Confidence Intervals
Cardiovascular disease
5 Year Average: 2005-2009

- CMH: 2.3
- County: 3.3
- State: 2.8
Crude Death Rate (per 1000) with 95% Confidence Intervals
Cardiovascular disease by Gender
5 Year Average: 2005-2009
Standardized Mortality Ratio
Cardiovascular disease
5 year average: 2005-2009

* Ratio to United States cardiovascular deaths, 2007
Standardized Mortality Ratio
(Cardiocvascular disease) by Gender
5 year average: 2005-2009

* Ratio to United States cardiovascular deaths, 2007
Standardized Mortality Ratio (Cardiovascular disease) by Race
5 year average: 2005-2009

* Ratio to United States cardiovascular deaths, 2007
Crude death rate is a simple measure of number of deaths per total population, given per 1000 people.

Relatively similar death rates for CMH, Genesee County, & Michigan, but they don’t tell the whole story; need to use SMR to account for age.

Death rates are better presented when adjusted for age, for example: the county has a larger older population than CMH because CMH consumers tend to die at much younger ages.

We see a change in the pattern: CMH whites have a slightly higher crude death rate than county or state.

You might expect to observe more deaths in African American CMH consumers, but this may be evidence of a protective factor within CMH; for instance, they are on Medicaid and they are not in jail.

This is an area that needs further study.
We see a larger difference using SMR than crude rates.

- **SMR interpretation:** SMR = 1.88
- This ratio indicates that more deaths (about 80%) were observed in CMH consumers than expected from the age-specific rates of deaths in the United States
- **SMR = 1.06** is comparable to the United States, or there were as many deaths as expected for Michigan when compared to the rest of the US
- The standardized mortality ratios for African Americans are essentially equivalent
- Same rates of death as other CMH consumers, but not a greater number of deaths than expected when compared to United States death rates for African Americans
- Further evidence of possible protective factor for African Americans within CMH
- It appears that a greater proportion of county & state residents are dying from cardiovascular disease than CMH consumers, but again, remember that CMH consumers are dying at younger ages than the other two populations.
- **SMRs** are better able to compare the three populations. When we account for the distribution of the population, compared to the United States, there are about 80% more deaths due to cardiovascular disease than expected in the CMH population